

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1.       **(currently amended)** A medical ultrasound transducer having an axis and an energy emitting surface transverse to the axis, wherein an edge of the surface is axially offset by a distance sufficient to produce an integral multiple  $360^\circ$  phase shift provide a phase shift which is an integral multiple of  $360^\circ$  to generate at least one substantially annular focal region(s) when said transducer is excited.
2.       **(previously presented)** The medical transducer of claim 1, where the transducer incorporates a solid piezoelectric material.
3.       **(previously presented)** The medical transducer of claim 1, where the transducer incorporates a composite piezoelectric material.
4.       **(previously presented)** The medical transducer of claim 1, where the transducer incorporates one or more matching layers.
5.       **(previously presented)** The medical transducer of claim 1, where the transducer incorporates a filler material in front of the transducer or backing material in back of the transducer.
6.       **(previously presented)** The medical transducer of claim 1, being formed of a single contiguous piezoelectric element.
7.       **(previously presented)** The medical transducer of claim 1, further comprising a plurality of piezoelectric elements suspended in a polymer.

8. **(previously presented)** The medical transducer of claim 1, wherein the transducer is a bowl shaped transducer.

Claims 9-10. **(cancelled)**

11. **(currently amended)** A method of creating a vortex transducer comprising the steps of:

- (a) shaping a piezoelectric ceramic into a desired form, the form having an axis, and a front end and a back end normal to the axis;
- (b) dicing said front end to create a plurality of elements, said elements being attached to said back end and separated by dicing channels;
- (c) filling said dicing channels with an epoxy material and allowing said epoxy to gel;
- (d) creating a transducer form by removing said back end such that said elements are separated from one another;
- (e) pressing said transducer form into a mold and heating said transducer form such that the epoxy is heated above the B-stage and allowing the resin to cross link and cool in a set shape;
- (f) treating at least one surface of the transducer form with a conductive material such that all elements are in contact with said conductive material; and
- (g) creating an axial offset by a sufficient distance in an edge of the transducer to produce an integral multiple 360° phase shift provide a phase shift which is an integral multiple of 360° to generate a substantially annular focal region when excited.

12. **(original)** The method of claim 11, wherein step (g) may be performed before performing any one of steps (a)-(f).